

Preliminary amendment dated February 7, 2006
Appl. No. 10/781,296
Filed February 18, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions and listings, of claims in the application:

Listing of Claims:

1. (original) A composition of L-ascorbic acid derivatives, comprising:
 - a. L-ascorbic acid and
 - b. lysine or lysine moieties, wherein L-ascorbic acid is covalently bound to the lysine or lysine moieties.
2. (original) The composition of claim 1 wherein the L-ascorbic acid is covalently bound to the lysine or lysine moieties in the C-6 position of the L-ascorbic acid.
3. (original) The composition of claim 1 wherein the L-ascorbic acid is covalently bound to the lysine or lysine moieties in the C-2 position of the L-ascorbic acid.
4. (original) The composition of claim 1 wherein the L-ascorbic acid is covalently bound to one or more lysine in C-6 position of the L-ascorbic acid.
5. (original) The composition of claim 1 wherein the L-ascorbic acid is covalently bound to is one or more lysine in C-2 position of the L-ascorbic acid,
6. (original) The composition of claim 1 wherein L-ascorbic acid is covalently bound to a first lysine in C-6 position and a second lysine in C-2 position of the L- ascorbic acid.
7. (original) The composition of claim 1 wherein the L-ascorbic acid is covalently bound to two or more lysine in C-6 position and one lysine in C-2 position of the L- ascorbic acid.

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8. (original) The composition of claim 1 wherein the L-ascorbic acid is covalently bound to one lysine in C-6 position and two or more lysine in C-2 position L-ascorbic acid.
9. (original) The composition of claim 1 wherein L-ascorbic acid is covalently bound to two or more lysine in C-6 position and two or more lysine in C-2 position of the L-ascorbic acid.
- 10-18. (canceled)
19. (currently amended) A method of preparing L-ascorbic acid derivatives, comprising the steps of:
 - 1) ~~treating~~ reacting 6-deoxybromoascorbate with lysine or lysine moieties wherein L-ascorbic acid is covalently bound to the lysine or lysine moieties; and
 - 2) isolating the L-ascorbic acid derivatives; wherein the 6-deoxybromoascorbate is covalently bound to one lysine.
20. (original) The method of claim 19 wherein the 6-deoxybromoascorbate is reacted to the ϵ -NH₂ group of lysine.
21. (currently amended) The method of claim 19 wherein ~~wherein~~ the 6-deoxybromoascorbate is covalently bound to a polylysine.
22. (original) The method of claim 19 wherein the 6-deoxybromoascorbate is reacted to the ϵ -NH₂ group of polylysine.
- 23-24. (canceled)
25. (original) The method of claim 23 wherein the 6-deoxybromoascorbate is covalently bound to a first proline at C-2 position of the L-ascorbic acid and a polylysine at C-6 position of the L-ascorbic acid.

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26. (original) A method of preparing L-ascorbic acid derivatives, comprising the steps of:
- 1) treating 6-deoxybromoascorbate with lysine or lysine moieties and proline or proline moieties wherein L-ascorbic acid is covalently bound to the lysine or lysine moieties and proline or proline moieties; and
 - 2) isolating said L-ascorbic acid derivatives.
27. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to a proline at C-2 position of the L-ascorbic acid and one lysine at C-6 position of the L-ascorbic acid.
28. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to a proline at C-6 position of the L-ascorbic acid and a polylysine at C-2 position of the L-ascorbic acid.
29. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to a polyproline at the C-6 position of the L-ascorbic acid and one lysine at the C-2 position of the L-ascorbic acid.
30. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to the ϵ -NH₂ group of lysine.
31. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to a proline at C-6 position of the L-ascorbic acid and a polylysine at C-6 position of the L-ascorbic acid.
32. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to a proline and a lysine-proline at C-2 position of the L-ascorbic acid.
33. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to a proline and a proline-lysine at C-2 position of the L-ascorbic acid.

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34. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to the α -NH₂ group of lysine.
35. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to the α -NH₂ group of polylysine.
36. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to lysine-proline.
37. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to the α -NH₂ group of lysine at C-6 position of the L-ascorbic acid and one proline at C-2 position of the L-ascorbic acid.
38. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to the α -NH₂ group of polylysine at C-6 position of the L-ascorbic acid and one proline at C-2 position of the L-ascorbic acid.
39. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to the α -NH₂ group of lysine at C-6 position of the L-ascorbic acid and a polyproline at C-2 position of the L-ascorbic acid.
40. (original) The method of claim 26 wherein the 6-deoxybromoascorbate is covalently bound to the α -NH₂ group of lysine at C-6 position of the L-ascorbic acid and a lysine-proline at C-2 position of the L-ascorbic acid.
41. (original) The method of claim 26 wherein the 6-deoxyaminoascorbate is covalently bound to the carboxyl group of lysine at C-6 position of the L-ascorbic acid.
42. (currently amended) The method of claim 26 wherein the 6-deoxyaminoascorbate is covalently bound to the ~~with~~ carboxyl group of polylysine at C-6 position of the L-ascorbic acid.

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43. (original) The method of claim 26 wherein the 6-deoxyaminoascorbate is covalently bound to the carboxyl group of lysine-proline at C-6 position of the L-ascorbic acid.
44. (original) The method of claim 26 wherein the 6-deoxyaminoascorbate is covalently bound to the carboxyl group of proline at C-6 position of the L-ascorbic acid.
45. (original) A method of producing L-ascorbic acid derivatives, comprising the steps of:
 - 1) treating 6-deoxybromoascorbate with lysine/lysine moieties and proline/proline moieties wherein L-ascorbic acid is covalently bound to the lysine/lysine moieties and proline/proline moieties; and
 - 2) isolating said L-ascorbic acid derivatives; wherein the 6-deoxyaminoascorbate is covalently bound to the carboxyl group of polyproline at C-6 position of the L-ascorbic acid.
46. (currently amended) A pharmaceutical composition comprising an L-ascorbic acid derivative as an effective ingredient, together with a pharmaceutical acceptable carrier, wherein the L-ascorbic acid derivative is selected from the group consisting of ascorbyl-6-lysine, ascorbyl-2-lysine, ascorbyl-6-polylysine, ascorbyl-2,6-dilylsine, ascorbyl-6-polylysine-2-lysine, ascorbyl-6-lysine-2-polylysine, ascorbyl-2,6-polylysine, ascorbyl-6-proline, ascorbyl-2-proline, ascorbyl-6-polyproline, ascorbyl-2-polyproline, ascorbyl-2,6-diproline, ascorbyl-2-proline-6-polyproline, ascorbyl-2-polyproline-6-proline, ascorbyl-2,6-diproline, 6-deoxyascrobyllysine, 6-deoxyascorbylproline, 6-deoxyascorbylpolylysine, 6-deoxyascorbylpolyproline, 6-deoxyascorbyllysine-2-proline, 6-deoxyascorbylproline-2-lysine, 6-deoxyascorbylpolylysine-2-proline, 6-deoxyascorbylpolyproline-2-lysine, 6-deoxyascorbyllysine-2-polyproline, 6-deoxyascorbylproline-2-polylysine, 6-deoxyascorbate proline-2-lysine-proline, 6-deoxyascorbate-2-proline-lysine, 6-deoxyascorbyllysine, 6-deoxyascorbate-lysine-proline, 6-deoxyascorbyl-lysine-2-proline, 6-deoxyascorbyl-polylysine-2-proline, 6-deoxyascorbyl-lysine-2-polyproline,

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6-deoxyascorbyl-lysine-2-lysine-proline, 6-deoxyamino ascorbyl-polylysine, 6-deoxyamino ascorbyl-lysine-proline, 6-deoxyamino ascorbylproline, 6-deoxyamino ~~ascorbypolypoline~~ ascorbypolypoline.

47. (original) The composition of claim 46 wherein the composition is used to prevent the degradation of extracellular matrix.
48. (original) The composition of claim 46, wherein the composition is used to stabilize connective tissue.
49. (currently amended) The composition of claim 46, wherein the composition is used to as an ~~antioxident~~ antioxidant.
50. The composition of claim 46, wherein the composition is used for treating damage to skin comprising applying the topical composition to the skin.